

REMARKS

Claims 1 and 4-20 are currently pending in this application.

Claim Rejections - 35 U.S.C. §112

Claims 7-14 and 16 stand rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite. Specifically, the Examiner asserts that it is unclear whether Applicant intends to claim one branch or four branches. Applicant respectfully traverses this rejection.

Applicant submits that these claims, as written, clearly set forth that there are at least four branches. Claim 7 recites that at least four sides of the satellite body comprise radiator panels. Claim 7 further recites “a fluid circulation branch associated with each of the radiator panels.” Because there are at least four radiator panels, and there is a fluid circulation branch associated with each of the radiator panels, there must be at least four branches. Furthermore, the claim recites “each branch,” clearly requiring the interpretation of multiple branches, rather than a single branch as the Examiner suggests is possible. Accordingly, Applicant submits that claim 7 clearly requires at least four branches, one for each of the radiator panels. Furthermore, Applicant submits that claims 8-14, which depend from claim 7, are clear at least for the reasons that claim 7 are definite. Applicant also submits that claim 16 is definite at least for reasons similar to claim 7.

Claim Rejections - 35 U.S.C. §102

Claims 7, 9, 11, 13, 15-17 and 20 stand rejected under 35 U.S.C. §102(b) as being anticipated by Yee (U.S. Patent No. 6,478,258). Applicant respectfully traverses this rejection.

Claim 7 recites a fluid loop which includes a fluid circulation branch for each of at least four radiator panels. Therefore, claim 7 recites a single loop with four branches. Each branch is connected to an inlet and an outlet of the same evaporator and each includes a condenser. For example, the non-limiting embodiment of Fig. 5 shows four branches, each with a condenser 40 and connected to the inlet and outlet of the evaporators 50. As shown in the non-limiting embodiment of Fig. 2, each of the branches is associated with a side of the satellite body.

Yee is deficient with regard to the claimed invention. Yee teaches a plurality of loop heat pipes 11. In each loop heat pipe, heat is collected at an evaporator end 14 and transported to a condenser end 15 of that loop heat pipe (*see* column 2, lines 36-40). The loop heat pipes 11 are flexible and can be routed to multiple radiator panels (*see* column 2, lines 56-59).

An individual one of the loop heat pipes 11 cannot be the claimed fluid loop at least because the individual loop heat pipes 11 lack the claimed branches. The Examiner asserts that Yee teaches multiple branches specifically in column 2, lines 56-59, but this section of Yee does not teach multiple branches and it is unclear how the Examiner believes that this teaches multiple branches. Yee states that the loop heat pipes are flexible and easily routed (*see* column 2, lines 55-56). Then, in the portion cited by the Examiner, Yee states that the loop heat pipes can be

routed to multiple radiator panels 13 (*see* column 2, lines 56-59). Thus, an individual loop heat pipe 11 is flexible so that it can go to multiple radiator panels. This does not require multiple branches, but can be done with a single loop heat pipe without multiple branches as claimed. Yee simply fails to teach multiple branches, each branch being associated with a radiator panel, being connected to an inlet and an outlet of the same evaporator and including a condenser, as claimed. Accordingly, the individual loop heat pipes cannot anticipate the claimed invention.

Furthermore, the Yee loop heat pipes 11 taken together cannot anticipate the claimed invention at least because they are not all connected to the inlet and outlet of the same evaporator or evaporators.

In view of the above, claim 7 is allowable over Yee. Claim 15 recites a fluid heat exchanger with at least one fluid circulation branch for each of four heat radiators, and thus requires at least four branches. As discussed above, Yee lacks multiple branches and therefore, claim 15 is allowable over Yee at least for reasons similar to those given with respect to claim 7. Claim 20 is also allowable at least for some reasons similar to claim 7 and 15.

Claims 9, 11 and 13 depend from claim 7 and claims 16 and 17 depend from claim 15. Therefore, claims 9, 11, 13, 16 and 17 are allowable at least because of their respective dependencies.

Claim Rejections - 35 U.S.C. §103

Claims 1 and 6

Claims 1 and 6 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Yee (U.S. Patent No. 6,478,258) in view of pages 2 and 3 of the present application. As discussed above, Yee lacks multiple branches. The Examiner only asserts that the present application teaches that communications satellite in a geostationary orbit is known. Yee's deficiencies with regard to the branches are not corrected by this assertion. Accordingly, claim 1 is allowable at least for reasons similar to claim 7. Furthermore, claim 6 is allowable at least because of its dependency on claim 1.

Claims 4, 5, 8, 10, 12, 14, 18 and 19

Claim 4 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Yee in view of Fredley (U.S. Patent No. 4,899,810).

Claim 5 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Yee in view of Watts (U.S. Patent No. 5,806,803).

Claim 8 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Yee.

Claims 10 and 18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Yee in view of Fredley.

Claim 12 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Yee in view of Watts.

Claims 10 and 18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Yee in view of Fredley.

Claims 14 and 19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Yee in view of pages 2 and 3 of the present application.

Applicant respectfully traverses these rejections. Claims 4 and 5 depend from claim 1; claims 8, 10, 12 and 14 depend from claim 7; and claims 18 and 19 depend from claim 15. The Examiner cites various combinations of references and assertions against these dependent claims; however, none of the references or assertions made by the Examiner corrects the above-noted deficiencies of Yee. Therefore, Applicants submit that claims 4, 5, 8, 10, 12, 14, 18 and 19 are allowable at least because of their respective dependencies.

Examiner's Response to Arguments

On pages 10 and 11 of the Final Office Action, the Examiner asserts that Applicant has agreed to several of the Examiner's assertions because they were not contested in the previous response. However, Applicant is not required to contest every assertion with which Applicant does not agree. The plain language of Applicant's previous response clearly did not indicate agreement with the Examiner's assertions. Accordingly, Applicant's failure to specifically

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contest certain matters in the previous response and/or the current response is not evidence that Applicant has agreed to the Examiner's assertions.

Conclusion

In view of the preceding remarks, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby earnestly solicited. If any points remain in issue that the Examiner feels may be best resolved through a personal or telephonic interview, he is kindly requested to contact the undersigned at the local telephone number listed below.

The USPTO is directed and authorized to charge all required fees (except the Issue/Publication Fees) to our Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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